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done to the doctrine of similar triangles and the science of trigonometry is too evident to require any comment."

Two hundred and ninety-fifth Meeting.

May 4, 1847. — MONTHLY MEETING.

The VICE-PRESIDENT in the chair.

Professor Peirce announced that he had continued and nearly completed his researches into the irregularities of motion exhibited by Uranus, and was more strongly than ever of the opinion that they were not to be attributed to the influence of the newly discovered planet Neptune. He had obtained several possible solutions of the problem, which are different from those of Leverrier and Adams, and which are published in a communication to the *Boston Courier*, dated April 29, 1847, and which he now proposes to lay before the Academy.

" The problem of the perturbations of Uranus admits of three solutions, which are decidedly different from each other, and from those of Leverrier and Adams, and equally complete with theirs. The present place of the theoretical planet, which might have caused the observed irregularities in the motions of Uranus, would, in two of them, be about *one hundred and twenty degrees* from that of Neptune, the one being behind, and the other before, this planet. If the above geometers had fallen upon either of these solutions instead of that which was obtained, Neptune would not have been discovered in consequence of geometrical prediction. The following are the approximate elements for the three solutions at the epoch of Jan. 1, 1847.

	I.	II.	III.
Mean Longitude, . . .	319°	79°	199°
Longitude of Perihelion, . .	148	219	188
Eccentricity, . . .	0.12	0.07	0.16

In each of them (the mass of the sun being unity)

The mass is 0.0001187

" The period of sidereal revolution is double that of Uranus. It will be observed that the mean distance in all these cases is the same with that of Neptune, and that, in the first* of them, the present direction

* The first of these solutions is corrected from the one which was published in

is not more than seven degrees from it; and in another solution which I have obtained, the present direction is almost identical with Neptune's. But the coincidence fails in a most important point; for, whereas Walker and Adams both demonstrate, from incontrovertible data and a simple but indisputable argument, that the new planet cannot be more than ninety degrees from its perihelion, either of these two latter geometrical planets would now be in aphelion and at much too great a distance from the sun.

"All my attempts to reconcile the observed motions of Neptune with the assumption that it is the principal source of the unexplained irregularities in the motions of Uranus, have been frustrated. Whatever orbit is attributed to this planet in my analysis, whether Walker's, or Valtz's, or Encke's, or Adams's, or any other which I can suppose, and which is not unquestionably irreconcilable with observation, and whatever may be supposed to be its mass, I cannot materially diminish the amount of residual perturbation, but leave it full as great as it was previously to Galle's discovery. Notwithstanding my repeated examinations, it would be presumptuous in me to claim for my investigations a freedom from error which the greatest geometers have not escaped, especially in the face of the vastly improbable conclusion to which my analysis tends; namely, that the influence of the new planet is wholly different from that demanded by the problem whose solution led to its discovery. It may, however, be asked whether the attraction of Uranus might not be exhibited in the motions of Neptune, in such a way as to modify the orbit deduced from observation, and thus reconcile it with theory; but this question cannot be answered without further investigation."

Professor Peirce stated that the above solutions were not to be regarded as actual solutions, but merely as theoretical and possible; that is, if a planet had moved in either of the above orbits, the perturbations which it would have produced in Uranus would have been precisely those which have been manifested. But the influence of the planet Neptune has been wholly disregarded in obtaining these solutions, precisely because the nature of that influence must remain unknown,

a previous communication to the Boston Courier, and which was vitiated by an oversight in the date for which the computations had been made.

until the mass and orbit of this planet have been determined with accuracy. Mr. Sears C. Walker, of Washington, is actively engaged in computing the orbit of Neptune, and has sent an account of his results in a letter, from which the following is an extract.

"*Washington, D. C., May 3d*, 1847.

"After computing my Elements IV. of the planet Neptune, I compared with an ephemeris derived from them one hundred and thirteen American and three hundred and sixty-six European observations, being the entire series extant to this date.

"From this collection of observations I have derived thirteen normal places, which gave me thirteen conditional equations for correcting Elements IV., which were a slight modification of Elements II. of my former letter.

"In computing the conditional equations I used the method sketched out in my former letter. As this application of the method of mechanical quadratures to the formation of conditional equations for correcting an approximate orbit is new, I will give a brief statement of it. The conditional equation is,

$$0 = a\,x + b\,y + c\,z + d\,u + e\,v + \&c. + n.$$

Where

$$a = (t - 1846 \text{ years, } 340 \text{ days}).$$
$$b = 1.$$
$$c = \left(\frac{d\,\omega}{d\,r}\right).$$
$$d = \left(a\,c - \frac{2\,n_0}{r_0}\,A^{(a)}\right).$$
$$e = \left(a^2 c - \frac{2\,n_0}{r_0}\,B^{(a)}\right).$$

Numerical term . . . $n = \left(\omega_{,}^{(a)} - \omega'^{(a)}\right) = (computed - observed)$ true orbital longitude.

Also, $n_0 =$ the assumed true daily sidereal angular motion for $a = 0$.
$\omega_0 =$ the assumed true orbital longitude for $a = 0$.
$r_0 =$ the assumed radius vector . . . for $a = 0$.
x, y, and $z = \Delta n_0, \Delta \omega_0$, and $\Delta r_0 =$ the required corrections for $a = 0$.
$\omega'^{(a)} =$ value of ω, from normal place, for date t, using $r = r_0$.
$\omega_{,}^{(a)} = \omega_0 + a\,n_0$.
$r^{(a)} = r_0 + z + a\,u + a^2 v + \&c. =$ corrected radius vector for date t.

$K^2 = (r_0 + z)^2 (n_0 + x)$ = Neptune's daily area.

$n^{(a)} = K^2 (r^{(a)})^{-2}$ = value of n for date t for conservation of areas.

$A^{(t)}$, $B^{(t)}$, &c. = the part of the coefficients of u, v, introduced by the quadratures.

"These coefficients were computed from Laplace's formula (*Mec. Cel.*, Vol. V.), viz.: —

$$\int_{a=0}^{a=a} n\,dt = +\tfrac{1}{2}n^{(0)} + n^{(1)} + n^{(2)} + \&c. + n^{(a-1)} + \tfrac{1}{2}n^{(a)}$$
$$-\tfrac{1}{12}(\Delta n^{(a-1)} - \Delta n^{(0)})$$
$$-\tfrac{1}{24}(\Delta^2 n^{(a-2)} - \Delta^2 n^{(0)})$$
$$-\tfrac{19}{720}(\Delta^3 n^{(a-3)} - \Delta^3 n^{(0)})$$
$$-\tfrac{3}{160}(\Delta^4 m^{(a-4)} - \Delta^4 m^{(0)})$$
$$-\&c.$$

"The solution of the thirteen equations of condition by least squares gave for Elements V., —

Longitude of the Perihelion, $\pi =$ 1° 45′ 32″.90 m. eq. Jan. 1, 1841.
Ascending Node, . . . $\Omega =$ 129° 51′ 13″.53
Inclination, ... $\iota =$ 1° 45′ 38″.10
Eccentricity, ... $e =$ 0.00505292
Mean distance, . . . $a =$ 30.145119
Epoch, Jan. 1st, 1847, . $M =$ 326° 2′ 1″.34 ..... for mean noon at
Mean daily sidereal motion, $\mu =$ 21″.437843 [Greenwich.
Period in tropical years, $T =$ 165.51330.

"The ephemeris from Elements V. in order to agree with the thirteen normal places requires the following corrections of the geocentric longitude and latitude.

Date.	Observation — Theory $\Delta\alpha$.	Observation — Theory $\Delta\delta$.
	″	″
1846, Aug. 9,	— 0.22	— 0.72
Sept. 28,	+ 0.08	+ 0.37
Oct. 8,	+ 0.17	+ 0.28
18,	— 0.06	+ 0.09
28,	— 0.20	+ 0.71
Nov. 7,	— 0.13	— 0.42
17,	+ 0.25	— 0.27
27,	— 0.25	— 0.05
Dec. 7,	— 0.49	— 0.08
17,	+ 0.29	+ 0.25
27,	+ 0.14	+ 0.83
1847, Jan. 16,	+ 0.35	— 0.93
April 6,	— 0.10	+ 0.65

"I do not recollect a closer agreement of an orbit with actual observation. Accordingly I regard Elements V. as the present disturbed elements of Neptune.

"You will notice that the values of e and π came out nearly the same as those of Elements III., required by the hypothesis of identity of the planet and missing star of the *Histoire Céleste*, May 10th, 1795. The node and inclination are so connected together at present that (very nearly) ten times the increase of the latter applied to the former leaves the geocentric place unchanged.

"Let us make the hypothetical Elements VI. by applying to (V.) the corrections $\Delta\,\Omega = +\,8''.50$, and $\Delta\,i = +\,84''.8$, and let us suppose that the term $\frac{1}{t}\Sigma\,\delta\,(n\,t)$ has increased $0''.03422$ in the last fifty-two years; then Elements VI. will represent the last nine months' observations, and place the star and planet together May 10th, 1795.

"I am engaged in computing the constant coefficients for the perturbations of Neptune on your hypothesis of $(2\,n^{\text{VII.}} - n^{\text{VI.}}) = 0$, or in other words of the applicability of the Laplacian libration first pointed out by yourself. As far as I am at present informed, the near approach of this expression to 0 was first noticed by ourselves, on the occasion of your visit to Washington, on the 25th of February last.

"A glance at the configurations of the planets for the last two or three years would serve to indicate that while Saturn and Uranus are still increasing the term $\frac{1}{t}\,\Sigma\,\delta\,(n\,t)$, Jupiter has produced a tide (if I may use the phrase) which has not yet subsided, and which, added to the action of the other two, may have increased the disturbed daily motion $0''.32$ above the pure elliptic value. In this case, your period is established.

"Both hypotheses, that of the identity of the star and planet, and of the libration of Neptune's year round the double of that of Uranus, are now rendered so probable by conclusions from direct observations, that nothing but a rigorous computation of the perturbations of Neptune can throw any farther light on the subject at present. I shall look with anxiety for the publication of your researches on this subject.

"Yours truly,

"SEARS C. WALKER."

After reading this letter, Professor Peirce remarked that Mr. Walker's discovery of the identity of Neptune and the star of Lalande was indisputably confirmed by an examination which Mr. Mauvais of the Paris Observatory had made into the orig-

inal manuscripts of Lalande, at the request of Leverrier. He had found that the doubtful marks of the printed copy were not contained in the original record; and that there was an observation of the planet of May 8, 1795, which was not published. More than fifty years ago, then, Lalande had in his possession observations enough of Neptune to have discovered it; and he could not have failed to make this discovery if he had taken reasonable pains to satisfy himself as to the discrepant character of the observations by a new comparison with the stars.

Professor Peirce stated that he had compared the observation of May 8, 1795, with Mr. Walker's orbit, and found it to be perfectly consistent with the slight changes which are required to satisfy the observation of May 10, 1795. Mr. Walker's orbit cannot, therefore, differ much from the exact orbit, and there can be no important error in adopting it as the basis of further research. The period is very near the double period of Uranus, but yet it seems to differ too much from this double period to admit of the establishment of a libration about that period. The principal effect of Neptune upon Uranus must, in case of the failure of this double period, be exhibited in the manifestation of an equation of the centre different from that which belongs to the proper elliptic motion, so that Uranus will have two equations of the centre, one of which will belong to its ellipse, and the other to the attraction of Neptune.

James D. Dana, Esq., Corresponding Member of the Academy, presented (through the Corresponding Secretary) a paper comprising brief characters of the Crustaceæ collected in the United States Exploring Expedition under Captain Wilkes, as follows: —

Conspectus Crustaceorum, in orbis terrarum circumnavigatione, C. Wilkes e classe Reipublicæ Fœderatæ duce, collectorum auctore J. D. DANA.*

* Conspectus narrationis uberioris auctore auctoritate publicâ edendæ.

Pars I. — CRUSTACEA COPEPODA (CYCLOPACEA*).

Familia I. CYCLOPIDÆ.

Oculi duo simplices tantum. *Palpi* mandibulorum maxillarumque breves aut obsoleti. *Sacculi ovigeri* duo.

Genus I. CYCLOPS.

Antennæ maris anticæ subcheliformes aut articulo geniculante instructæ.

1. Cyclops Brasiliensis. — C. cephalo-thorace posticè obtuso, abdominem longitudine superante; antennis anticis in utroque sexu elongatis (cephalo-thorace longioribus), articulis primo secundoque majoribus et setis oblongis apice instructis, setis antennarum aliis brevibus; anntennis *maris* 7-articulatis, articulis tribus basalibus crassissimis, reliquis teretibus, *feminæ*, 14-articulatis, teretibus; stylis caudalibus

* Cyclopaceorum organa sunt: —

Cephalo-thorax 4 – 7-articulatus. *Abdomen* 1 – 6-articulatum, carapace non tectum.

Frons sæpissimè rostrata, rostro aut simplice, aut furcato, aut transversim emarginato, aut appendicibus instructo.

Oculi duo simplices, pigmento aut connati aut disjuncti; quoque quibusdam, oculi duo coaliti sub capite insistentes; aliis, oculi lenticulis duobus grandibus, uno oblato, uno prolato, constructi.

Antennæ anticæ 4 – 28-articulatæ, aut simplices, aut appendiculatæ; *posticæ*, 2 – 5-articulatæ et sæpe ramum ferentes, aliis apice setigeræ, aliis subcheliformes.

Mandibulæ apice dentatæ, sæpius palpigeræ.

Maxillæ duæ setosæ; sæpe palpigeræ, palpo sive parvulo et vix discernendo, sive setas diffusas ferente

Maxillipedes duo, aliis parvi et parcius setigeri, aliis crassiores et valde setigeri, setis spinulosis.

Pedes antici duo simplices, aut obsolescentes, aut elongati, aliis setigeri setis non spinulosis, aliis subcheliformes.

Pedes biremes decem; octo anteriores sæpius natatorii, sed duo antici interdum subprehensiles; duo posteriores plurimum obsoleti aut parvuli; in quibusdam masculinis pergrandes et uno ambove prehensiles.

Abdomini pertinentes ad basin sæpissimè *pedes spurii*, sive obsolescentes, sive oblongi et setis armati; ad extremum, styli caudales duo, unusquisque 4 – 6 setis plerumque plumosis instructus.

Ad segmentum cephalo-thoracis *septem*-articulati primum, antennæ quatuor pertinent; ad secundum, mandibula, maxillæ, et maxillipedes; ad tertium, pedes quatuor antici; (cephalo-thorace *quadri*-articulato, hæc tota ad segmentum anticum pertinent;) ad segmenta sequentia, singulatim, duo pedes biremes.

oblongis, tres articulos abdominis ultimos simul sumtos fere æquantibus, setâ secundâ * fere abdominis longitudine, primâ dimidio breviore.

Hab. Rio Janeiro.

2. Cyclops curticaudus. — C. *feminæ* cephalo-thorace posticè obtuso, abdominem longitudine valde superante ; antennis anticis dimidio cephalo-thorace valde longioribus, 13 – 14-articulatis, articulis brevibus, quinque basalibus non oblongis ; setis antennarum † inæqualibus, *posterioribus* articulorum penultimi et præantepenultimi longioribus (quatuor articulos ultimos simul sumtos longitudine æquantibus), *anterioribus* perbrevibus ; stylis caudalibus prælongis, dimidio abdomine vix brevioribus, setis curtis, secundâ tertiâque subæquis et stylo paulo longioribus.

Long. $\frac{1}{20}''$. — *Hab.* Valparaiso, Chile.

3. Cyclops pubescens. — C. cephalo-thorace pubescente, abdominem longitudine vix superante, posticè subacuto ; antennis anticis *feminæ* dimidii cephalo-thoracis longitudine, 8 – 9-articulatis, setis totis brevibus ; antennis *maris* brevioribus, tribus articulis basalibus curtis, quarto crassissimo subovato, dimidii antennæ longitudine, ultimo (forsan duplice) tenui brevique, digitiformi ; stylis caudalibus abdomine quadruplo brevioribus, setâ secundâ abdomine longiore, primâ brevissimâ.

Long. $\frac{1}{24}''$. — *Hab.* Valparaiso, Chile.

4. Cyclops MacLeayi. — C. *feminæ* cephalo-thorace abdomine valde longiore ; antennis anticis longis (cephalo-thoracem æquantibus), ad basin paulo crassioribus, articulo secundo oblongo, 5 – 6 sequentes brevissimos simul sumtos longitudine fere æquante, 10 reliquis paulum oblongis, septimo longiore, setis articuli secundi et septimi parum elongatis, duorum subultimorum † totis brevibus, ultimi articulum longitudine vix superantibus ; stylis caudalibus tenuibus, duos articulos abdominis longitudine æquantibus, setâ secundâ abdomine breviore, primâ fere styli longitudine.

Long. $\frac{1}{24}''$. — *Hab.* in vicin. Sydney, N. S. W.

* Setarum caudalium interior est nobis *prima*, et sequentes ordine, *secunda*, *tertia*, et cet.

† Setæ antennarum plerumque valent ad species distinguendum, et præcipuè illæ articulorum ultimorum. Articulos 2, 3, aut 4, ultimum præcedentes, *subultimos* sæpe vocamus ; et eorum setæ, *anteriores* et *posteriores*, scrutandæ et comparandæ.

5. Cyclops Vitiensis. — C. *feminæ* cephalo-thorace posticè fere obtuso, abdominem longitudine vix superante, nudo; antennis anticis longis, cephalo-thoracis longitudine, multi-articulatis, articulo primo crasso, oblongo, secundo dimidio minore, 6 sequentibus perbrevibus; setis antennarum inæqualibus, articulorum primi secundique paulo longioribus, ultimi et 3 subultimorum posterioribus subæqualibus, articulo suoque paulo longioribus, setis anterioribus subultimorum perbrevibus; stylis oblongis, vix duorum articulorum abdominis longitudine, setâ secundâ abdomine paulo longiore.

Long. $\frac{1}{24}''$. — *Hab.* in Venua Lebu, ad Insulas Viti.

Familia II. — HARPACTIDÆ.

Oculi duo simplices tantum. *Palpi* mandibulorum maxillarumque parvuli, aut obsoleti, setis diffusis non instructi. *Sacculus ovigerus* unicus. *Antennæ posticæ* setis habitu digitorum apice instructæ.

Genus I. HARPACTICUS. *Milne Edwards.*

Frons subrostrata, appendicibus nullis. *Antennæ anticæ maris* subcheliformes, aut articulo geniculante instructæ; *feminæ* basi 2–5 articulatâ et quasi curto flagello sæpius minutè 5-articulato compositæ, apice basis appendicem brevem ferentes. *Cephalo-thorax* 4-articulatus. *Pedes antici* subcheliformes mediocres.

Syn. — Arpacticus, et Cyclopsina partim (C. castor, excluso), *M. Edwards.* — Nauplius, *Philippi.* — Canthocarpus, *Westwood.* — Doris, *Koch.* — Canthocarpus et Arpacticus, non Cyclopsina, *Baird.*

1. Harpacticus virescens. — H. cephalo-thorace ovato, anticè rotundato et breviter rostrato, segmentis posticè non acutis, abdomine paululum subito angustiore et posticè sensim decrescente, 5-articulato; antennis anticis brevibus, dimidii cephalo-thoracis longitudine, 9-articulatis, articulis basalibus quatuor, crassiusculis, secundo maximo, setis perbrevibus; pedibus anticis parvis, digito dimidii articuli secundi longitudine; stylis caudalibus brevissimis, paulum divaricatis, setâ secundâ corporis longitudine, primâ tertiâque subæquis abdomine valde brevioribus.

Long. $\frac{1}{20}''$. — *Hab.* Madeira, in litora insulæ.

2. Harpacticus concinnus. — H. *feminæ* cephalo-thorace longè ovato, segmentis posticè acutis; abdomine subito paulum angustiore, lato, lateribus bene recto, 6-articulato, parce decrescente, articulo

primo brevissimo ; antennis anticis brevibus, 9-articulatis, articulis basalibus quatuor, attenuatis, setis brevibus, apice paulum longis (flagellum longitudine æquantibus); pedibus anticis parvis, articulo secundo infra obtuso-angulato et digitum longitudine duplo superante ; stylis caudalibus brevissimis, parum divaricatis, setâ secundâ corpore paulum breviore, tertiâ fere dimidio minore, reliquis brevissimis.

Long. $\frac{1}{20}''$. — *Hab.* in mare Pacifico prope Valparaiso.

3. HARPACTICUS SACER. — H. cephalo-thorace ovato, anticè subdeltoideo, segmentis posticè obtuso, dimidio longitudine latiore ; abdomine subito multo angustiore, et breviore quam cephalo-thorax, 6-articulato, articulo primo brevi ; antennis anticis brevibus, *feminæ* 9-articulatis, articulis basalibus quatuor, setis totis brevibus, *maris* articulo quinto (6?) crassissimo, subovato, margine anteriore subrecto, digito 2-articulato duabus setis minutis ad apicem instructo ; pedibus anticis parvis digito tenui, largè dimidii articuli secundi longitudine ; stylis caudalibus brevissimis, parum divaricatis, setâ secundâ corporis longitudine, tertiâ dimidio breviore, primâ perbrevi.

Long. $\frac{1}{16}''$. — *Hab.* in litora ad Valparaiso.

4. HARPACTICUS LINEARIS. — H. corpore fere lineari, abdomine non angustiore, posticè parum attenuato ; antennis anticis brevissimis, 7-articulatis, articulis basalibus duobus crassissimis, primo majore, secundo perbrevi, setis totis brevibus ; stylis caudæ styliformibus, articulo abdominis ultimo longioribus, parum divaricatis, setâ secundâ longitudine fere dimidii corporis.

Long. $\frac{1}{20}''$. — *Hab.* in mari, ad Insulas Viti.

5. HARPACTICUS ROSEUS. — H. corpore fere lineari, abdomine non angustiore, antennis perbrevibus et tenuissimis, basi non crassioribus, setis totis brevibus ; stylis caudalibus brevibus, non divaricatis, setâ secundâ corpore longiore, spinulosâ.

Long. $\frac{1}{30}''$. — *Hab.* in mari Sulu.

6. HARPACTICUS ACUTIFRONS. — H. *maris* cephalo-thorace angustè elliptico, anticè acuto, posticè obtuso ; abdomine subito angustiore, 6-articulato, posticè valde attenuato, articulo ultimo angustissimo ; antennis anticis brevibus, 3 articulis basalibus non oblongis, tertio minimo, quarto crassissimo et cylindrico prope dimidii antennæ longitudine, quinto (forsan duplice), digitiformi, parvulo ; antennis juxta basin et ad apicem breviter setigeris ; stylis caudalibus minutis non divaricatis, setâ dimidio corporis parum longiore, strictè appressâ, nudâ.

Long. $\frac{1}{24}''$. — *Hab.* in mari prope Tierra del Fuego.

Genus II. CLYTEMNESTRA. (*Dana.*)

Frons subrostrata, appendicibus nullis. *Antennæ anticæ* flexiles; *maris*, non subcheliformes. *Pedes antici* permagni, subcheliformes.

Obs. Non *Arpacticus* Bairdii : *Cyclops chelifer* Arpacticis pertinet. Magnitudo pedium anticorum character genericum non bene validum, nisi pergrandes, quoque pro antennis geniculatis in coitu usitati sunt; ideoque est antennæ *maris* Clytemnestræ non subcheliformes.

Clytemnestra scutellata. — C. rostro subacuto; cephalo-thoracis segmento antico lato, posticè utrinque dilatato, tribus segmentis sequentibus subito angustioribus margine posteriore valde arcuatis et lateribus posticè productis et subacutis; abdomine 6-articulato, articulis subæquis, decrescentibus; antennis anticis elongatis 8 (9 ?)-articulatis, articulo quinto (sexto ?) arcuato, sequente oblongo et apice cum appendice instructo (?), reliquis tribus oblongis; setis longis divaricatis, duabus apicalibus fere antennæ longitudine; pedibus anticis pergrandibus, articulo secundo subclavato, digito tenui arcuato fere articuli secundi longitudine.

Long. $\frac{1}{24}''$. — *Hab.* in mari Pacifico, ad lat. 18° S., long. 124° W.; etiam at Insulas Kingsmills; in mari Sinense.

Genus III. SETELLA. (*Dana.*)

Corpus angustissimum fere lineare, anticè attenuatum et subacutum, et fronte appendices duas parvulas falciformes subtus gerens. *Antennæ anticæ* flexiles, appendice brevi instructæ, setis brevibus; *maris* non subcheliformes. *Pedes antici* mediocres aut parvi. *Pedes proximè sequentes* lateraliter porrecti, apice breviter setigeri. *Pedes abdominis* elongati et longè setigeri. *Setæ caudales* duæ longissimæ, (in speciebus scrutatis corpore valde longiores, spinulosæ, et strictè appressæ,) reliquæ brevissimæ. (Tubum cibarium sæpius læte rubrum.)

1. Setella tenuicornis. — S. antennis anticis fere corporis longitudine, articulis duobus basalibus valde crassioribus, secundo oblongo, reliquis teretibus gracillimis, tertio longissimo, quarto cum appendice instructo; ramis pedis biremis antici subæquis, longiore 3-articulato, articulis fere æquis; pedibus abdominis cum 5 – 6 setis elongatis subæquis instructis; setis caudalibus corpore fere duplo longioribus.

Long. $\frac{1}{15}''$ setis caudalibus exclusis. — *Hab.* in mari Atlantico meridionali.

2. SETELLA LONGICAUDA. — S. *maris* (?) antennis anticis basi non crassioribus, 7-aut 8-articulatis, articulo quarto paululum arcuato (postice convexo) et cum appendice instructo, tertio fere duplo longiore quam quartus aut secundus ; ramo longiore pedis biremis antici 3-articulato, articulo primo valde brevissimo ; pedum abdominis ramo exteriore brevissimè setigero, interiore duabus setis spinulosis instructo, apicem abdominis fere attingentibus ; setis caudalibus corpore largè duplo longioribus.

Long. $\frac{1}{24}''$. — *Hab.* in mari Atlantico meridionali.

3. SETELLA GRACILIS. — S. *feminæ* antennis anticis gracillimis usque ad basin, rectis, inter sese prope 130° divaricatis, articulo primo obsoleto, secundo quartum æquante et dimidio tertio longiore, quarto non arcuato ; digito pedis antici dimidio articulo secundo longiore ; setis caudalibus fere duplo corpore longioribus.

Long. $\frac{1}{24}''$. — *Hab.* in mari Pacifico juxta insulas Kermadec et Tonga.

4. SETELLA CRASSICORNIS. — S. *maris* (?) antennis anticis crassioribus, rectis, inter sese 130° divaricatis, articulo primo obsoleto, secundo tertioque brevibus, quarto appendiculato, hoc etiam sexto ultimoque tertium longitudine duplo superante ; digito pedis antici dimidii articuli secundi longitudine ; setis caudalibus prope sesqui corporis longitudine.

Long. $\frac{1}{24}''$. — *Hab.* in mari Sinense.

5. SETELLA ACICULUS. — S. *feminæ* antennis crassiusculis fere rectè divaricatis, ad basin paulum curvatis, articulo primo perbrevi, secundo quartum longitudine æquante et longiore quam tertii dimidium ; pedis antici digito dimidii articuli secundi longitudine ; setis caudalibus sesqui corporis longitudine.

Hab. in mari Indico, prope Fretum Sundæ.

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